

ISAC Meeting – December 2011

ACTION OR INFORMATION ITEM

SPONSOR (Name/Email): Kristina Serbesoff-King/kserbesoffking@tnc.org

TOPIC: Patterns of live vertebrate importation into the United States: an analysis of an invasion pathway

SPEAKER (Name/Email): Christina Romagosa/ROMAGCH@auburn.edu

- 1. DESCRIPTION OF AGENDA ITEM:** The wildlife trade is an important biological commodity that creates global movement of millions of individuals annually. This anthropogenic transport of wildlife is a major threat to biodiversity by depleting wild populations and introducing invasive species, disease, and parasites. For vertebrates, trade in live specimens is the most important pathway related to their introduction. The US is one of the largest global markets for live vertebrates, and because importation records are maintained by US Fish and Wildlife Service (USFWS), an unusually complete record of legal trade can be generated. Dr. Romagosa obtained importation data for 6 taxonomic groups (amphibians, turtles, lizards, snakes, birds, and mammals) from USFWS declaration forms for available years between 1968-2009 either from USFWS or from published compilations of these data. These data were used for a synthetic review of US trade in live vertebrates over 30 years, and its contribution to the invasion process. Specifically, Dr. Romagosa 1) summarized the cumulative number of species imported, 2) compared the magnitude of individuals imported for available time periods, 3) summarized geographic patterns, and 4) estimated the number of species entrained in this invasion pathway. The US imported over 4300 species and approximately 300 million individual terrestrial vertebrates during 1968-2009. Trade-related dynamics have led to changes in species used for trade, individual quantities of those species traded, and their geographic origin. In relation to the invasion process, roughly 12% of all vertebrate species imported were introduced, 25% of those introduced established breeding populations, and finally, 38% of established species spread from the original introduction site. These results provide a baseline for the proportion of imported vertebrate species entrained in this invasion pathway, and suggest that USFWS data are an informative source that can be used to assess trade dynamics, its relationship to biological invasions, and related policy.

2. WHY IS THIS ITEM IMPORTANT TO NISC / ISAC? HOW IS IT RELATED TO THE NATIONAL INVASIVE SPECIES MANAGEMENT PLAN?

This presentation speaks directly to live animal import trade, using LEMIS data to look at this pathway with relation to invasive species. Understanding the movement of non-native wildlife through trade is an important step in prevention and in applying a screening process.

Presentation relates to OBJECTIVE P.1: PREVENT ESTABLISHMENT OF INTENTIONALLY INTRODUCED INVASIVE SPECIES. Specifically relates to Implementation Task P.1.2: Develop screening processes to evaluate invasiveness of terrestrial and aquatic nonnative wildlife (e.g., fish, mollusks, crustaceans, mammals, birds, reptiles and amphibians) moving in trade.

3. PREVIOUS ACTIONS TAKEN BY NISC / ISAC ON THIS ITEM: unknown

4. ACTION REQUESTED OF NISC / ISAC: 30 minute presentation by Dr. Romagosa at Fall 2011 ISAC meeting

5. ALTERNATIVES: We would also like to have an agency perspective on the LEMIS database and the trade of non-native wildlife. A separate template will be submitted for this. Note, Dr. Romagosa will pay her own travel expenses.

6. ATTACHMENTS: Dr. Romagosa presented this information at Invasive Species in a Globalized World held in May at the University of Chicago <http://pge.uchicago.edu/events/2010-2011/invasivespecies/speakers/romagosa.shtml>